SEQUENCE LISTING

<110> Trimeris, Inc.

<120> Site-specific chemical modification of HIV gp41-derived peptides

<130> TRM-008PCT

<150> US 60/553,063
<151> 2004-03-15

<160> 175

<170> PatentIn version 3.2

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<211> 60
<212> PRT
<213> Artificial

<220>
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Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln
1 5 10 15

Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln
20 25 30

Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val
35 40 45

Glu Arg Tyr Leu Lys Asp Gln Gln Leu Leu Gly Ile
50 55 60

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<213> Artificial

<220>
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<400> 2

Trp Asn Ala Ser Trp Ser Asn Lys Ser Leu Glu Gln Ile Trp Asn Asn
1 5 10 15

Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu
20 25 30

Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu
35 40 45

Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
50 55 60

<210> 3
<211> 36
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<220>
<223> synthesized

<400> 3

Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
1 5 10 15

Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
20 25 30

Trp Asn Trp Phe
35

<210> 4
<211> 36
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<213> Artificial

<220>
<223> synthesized

<400> 4

Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu
1 5 10 15

Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu
20 25 30

Gln Glu Leu Leu
35

<210> 5
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<213> Artificial

<220>
<223> synthesized

<400> 5

Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile His
1 5 10 15

Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
20 25 30

Leu Leu Glu Leu
35

<210> 6
<211> 38
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<220>
<223> synthesized

<400> 6

Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
1 5 10 15

Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu
20 25 30

Arg Tyr Leu Lys Asp Gln
35

<210> 7
<211> 54
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 7

Gly Ser Thr Met Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg
1 5 10 15

Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala
20 25 30

Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys
35 40 45

Gln Leu Gln Ala Arg Ile
50

<210> 8
<211> 50
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 8

Gly Ala Arg Ser Met Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser
1 5 10 15

Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln
20 25 30

Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala
35 40 45

Arg Ile
50

<210> 9
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<220>
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<400> 9

Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln
1 5 10 15

Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln
20 25 30

Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg
35 40

<210> 10
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<220>
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<400> 10

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
35 40

<210> 11
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<220>
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<400> 11

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr
35 40 45

<210> 12
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<220>
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<400> 12

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys

<210> 13
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<220>
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<400> 13

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys Asp Gln
50

<210> 14
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<220>
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<400> 14

Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala
1 5 10 15

Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln
20 25 30

Ala Arg Ile Leu
35

<210> 15
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<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 15

Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala
1 5 10 15

Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln
20 25 30

Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40 45

<210> 16
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<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 16

Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

<210> 17
<211> 34
<212> PRT
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<220>
<223> synthesized

<400> 17

Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly
1 5 10 15

Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys
20 25 30

Asp Gln

<210> 18
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<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 18

Cys Gly Gly Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

<210> 19
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<220>
<223> synthesized

<400> 19

Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
1 5 10 15

Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val
20 25 30

<210> 20
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<220>
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<400> 20

Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
1 5 10 15

Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu
20 25 30

Arg Tyr Leu Lys Asp Gln Gly Gly Cys
35 40

<210> 21
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<220>
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<400> 21

Cys Gly Gly Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln Gly Gly Cys
35 40

<210> 22
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<220>
<223> synthesized

<400> 22

Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu
1 5 10 15

Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu
20 25 30

Gln Ala Arg Ile Leu Ala Val
35

<210> 23
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<220>
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<400> 23

Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Ala Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

<210> 24
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<220>
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<400> 24

Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Val Ala Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

<210> 25
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<220>
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<400> 25

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys

<210> 26
<211> 51
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<220>
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<400> 26

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys Asp Gln
50

<210> 27
<211> 49
<212> PRT
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<220>
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<400> 27

Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile
1 5 10 15

Leu Arg Ala Leu Glu Ala Thr Gln His Ala Val Gln Ala Leu Val Trp
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile
35 40 45

Lys

<210> 28
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<220>
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<400> 28

Gln Ile Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Ile Gln His Ala Leu Gln Ala Ile Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys

<210> 29
<211> 49
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<220>
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<400> 29

Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile
1 5 10 15

Leu Arg Ala Leu Glu Ala Thr Gln His Ala Val Gln Ala Leu Val Trp
20 25 30

Gly Val Arg Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile
35 40 45

Lys

<210> 30
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<400> 30

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Thr Gln His Ala Val Gln Ala Leu Val Trp
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile
35 40 45

Lys Asp Gln
50

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Gln Ala Arg Gln Leu Val Ser Gly Leu Val Gln Gln Gln Asn Asn Ile
1 5 10 15

Leu Arg Ala Leu Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Val Leu Ala Leu Glu Arg Tyr Ile
35 40 45

Lys Asp Gln
50

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<400> 32

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Ala Leu Gln Ala Thr Val Trp
20 25 30

Gly Val Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys Asp Gln
50

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<211> 41
<212> PRT
<213> Artificial

<220>
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<400> 33

Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Leu Thr Val Phe Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

<210> 34
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<400> 34

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Phe
20 25 30

Gly Ile Arg Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys

<210> 35
<211> 51
<212> PRT
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<220>
<223> synthesized

<400> 35

Gln Ala Arg Gln Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu
1 5 10 15

Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Ala Thr Val Trp
20 25 30

Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
35 40 45

Lys Asp Gln
50

<210> 36
<211> 41
<212> PRT
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<220>
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<400> 36

Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
1 5 10 15

Leu Gln Ala Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu
20 25 30

Ala Val Glu Arg Tyr Leu Lys Asp Gln
35 40

<210> 37
<211> 36
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 37

Asn Ala Ser Trp Ser Asn Lys Ser Leu Glu Gln Ile Trp Asn Asn Met
1 5 10 15

Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile
20 25 30

His Ser Leu Ile
35

<210> 38
<211> 36
<212> PRT
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<220>
<223> synthesized

<400> 38

Asn Lys Ser Leu Glu Gln Ile Trp Asn Asn Met Thr Trp Met Glu Trp
1 5 10 15

Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile His Ser Leu Ile Glu
20 25 30

Glu Ser Gln Asn
35

<210> 39

<211> 36
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<220>
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<400> 39

Glu Gln Ile Trp Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile
1 5 10 15

Asn Asn Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn
20 25 30

Gln Gln Glu Lys
35

<210> 40
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<212> PRT
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<220>
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<400> 40

Gln Ile Trp Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn
1 5 10 15

Asn Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln
20 25 30

Gln Glu Lys Asn
35

<210> 41
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<212> PRT
<213> Artificial

<220>
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<400> 41

Ile Trp Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn
1 5 10 15

Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
20 25 30

Glu Lys Asn Glu
35

<210> 42
<211> 36
<212> PRT
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<220>
<223> synthesized

<400> 42

Trp Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr
1 5 10 15

Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu
20 25 30

Lys Asn Glu Gln
35

<210> 43
<211> 36
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 43

Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr
1 5 10 15

Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys
20 25 30

Asn Glu Gln Glu
35

<210> 44
<211> 36
<212> PRT
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<220>
<223> synthesized

<400> 44

Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser
1 5 10 15

Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn
20 25 30

Glu Gln Glu Leu
35

<210> 45
<211> 36
<212> PRT
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<220>
<223> synthesized

<400> 45

Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile
1 5 10 15

His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln
20 25 30

Glu Leu Leu Glu
35

<210> 46
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<212> PRT
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<220>
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<400> 46

Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu
1 5 10 15

Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu
20 25 30

Gln Glu Leu Leu Glu Leu
35

<210> 47
<211> 35
<212> PRT
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<220>
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<400> 47

Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile His Ser
1 5 10 15

Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu
20 25 30

Leu Glu Asp
35

<210> 48
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<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 48

Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile His Ser Leu
1 5 10 15

Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu
20 25 30

Glu Leu Asp Lys
35

<210> 49
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<220>
<223> synthesized

<400> 49

Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile His Ser Leu Ile
1 5 10 15

Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu
20 25 30

Leu Asp Lys Trp
35

<210> 50
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<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 50

Asn Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln
1 5 10 15

Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser
20 25 30

Leu Trp Asn Trp
35

<210> 51
<211> 36
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 51

Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu
1 5 10 15

Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp
20 25 30

Asn Trp Phe Asn
35

<210> 52
<211> 36
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 52

Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys
1 5 10 15

Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn
20 25 30

Trp Phe Asn Ile
35

<210> 53
<211> 36
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 53

Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn
1 5 10 15

Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp
20 25 30

Phe Asn Ile Thr
35

<210> 54
<211> 43
<212> PRT
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<220>
<223> synthesized

<400> 54

Lys Ser Leu Glu Gln Ile Trp Asn Asn Met Thr Trp Met Glu Trp Glu
1 5 10 15

Arg Glu Ile Asp Asn Tyr Thr Ser Leu Ile Tyr Ser Leu Ile Glu Glu
20 25 30

Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
35 40

<210> 55
<211> 36
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 55

Asn Asn Met Thr Trp Met Glu Trp Glu Arg Glu Ile Asp Asn Tyr Thr
1 5 10 15

Ser Leu Ile Tyr Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys
20 25 30

Asn Glu Gln Glu
35

<210> 56
<211> 30
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 56

Glu Trp Glu Arg Glu Ile Asp Asn Tyr Thr Ser Leu Ile Tyr Ser Leu
1 5 10 15

Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
20 25 30

<210> 57
<211> 36
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 57

Tyr Thr Asn Thr Ile Tyr Thr Leu Leu Glu Glu Ser Gln Asn Gln Gln
1 5 10 15

Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
20 25 30

Trp Asn Trp Phe
35

<210> 58
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<220>
<223> synthesized

<400> 58

Tyr Thr Gly Ile Ile Tyr Asn Leu Leu Glu Glu Ser Gln Asn Gln Gln
1 5 10 15

Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Asn Leu
20 25 30

Trp Asn Trp Phe
35

<210> 59
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<220>
<223> synthesized

<400> 59

Tyr Thr Ser Leu Ile Tyr Ser Leu Leu Glu Lys Ser Gln Ile Gln Gln
1 5 10 15

Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
20 25 30

Trp Asn Trp Phe
35

<210> 60
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<220>
<223> synthesized

<400> 60

Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
1 5 10 15

Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
20 25 30

Phe Asn Phe Phe
35

<210> 61
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<212> PRT
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<220>
<223> synthesized

<400> 61

Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile His Ser Leu Ile Glu
1 5 10 15

Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu
20 25 30

Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
35 40

<210> 62
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<212> PRT
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<220>
<223> synthesized

<400> 62

Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu
1 5 10 15

Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu
20 25 30

Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
35 40 45

<210> 63
<211> 42
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 63

Asn Asn Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr
1 5 10 15

Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys
20 25 30

Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys
35 40

<210> 64
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 64

Met Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Leu Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 65
<211> 46
<212> PRT

<213> Artificial

<220>
<223> synthesized

<400> 65

Ala Pro Lys Glu Met Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu
1 5 10 15

Tyr Ala Ala Arg Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln
20 25 30

Glu Lys Asn Glu Ala Ala Leu Arg Glu Leu Lys Gln Gly Ile
35 40 45

<210> 66
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 66

Met Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 67
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 67

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 68
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 68

Met Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Ala Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 69
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 69

Met Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Ala Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 70
<211> 42
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 70

Met Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Trp Glu Trp Phe
35 40

<210> 71
<211> 42
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 71

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Trp Glu Trp Phe
35 40

<210> 72
<211> 41
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 72

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Trp Glu Trp Phe
35 40

<210> 73
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 73

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Trp Glu Trp Phe
35

<210> 74
<211> 48
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 74

Trp Glu Trp Phe Gly Gly Ser Gly Gly Ser Thr Thr Trp Glu Ala Trp
1 5 10 15

Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu Ala Leu Ile Arg
20 25 30

Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala Leu Arg Glu Leu
35 40 45

<210> 75
<211> 48
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 75

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg

1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Gly Gly Ser Gly Gly Ser Trp Glu Trp Phe
35 40 45

<210> 76
<211> 45
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 76

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Gly Gly Ser Gly Gly Ser Trp
35 40 45

<210> 77
<211> 45
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 77

Trp Gly Gly Ser Gly Gly Ser Thr Thr Trp Glu Ala Trp Asp Arg Ala
1 5 10 15

Ile Ala Glu Tyr Ala Ala Arg Ile Glu Ala Leu Ile Arg Ala Ala Gln
20 25 30

Glu Gln Gln Glu Lys Asn Glu Ala Ala Leu Arg Glu Leu
35 40 45

<210> 78
<211> 39

<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 78

Pro Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala
1 5 10 15

Arg Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn
20 25 30

Glu Ala Ala Leu Arg Glu Leu
35

<210> 79
<211> 40
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 79

Pro Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala
1 5 10 15

Arg Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn
20 25 30

Glu Ala Ala Leu Arg Glu Leu Pro
35 40

<210> 80
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 80

Thr Thr Trp Glu Ala Trp Asp Lys Ala Ile Ala Glu Tyr Ala Ala Lys
1 5 10 15

Ile Glu Ala Leu Ile Lys Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu

20 25 30

Ala Ala Leu Lys Glu Leu
35

<210> 81
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 81

Thr Thr Trp Glu Ala Trp Asp Arg Ala Trp Gln Glu Trp Glu Gln Lys
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 82
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 82

Thr Thr Trp Ala Ala Trp Asp Ala Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 83
<211> 38
<212> PRT
<213> Artificial

<220>

<223> synthesized

<400> 83

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Ala Tyr Ala Ala Ala
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 84
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 84

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Ala Ala Leu Ile Ala Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 85
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 85

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Ala
20 25 30

Ala Ala Leu Ala Glu Leu

35

<210> 86
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 86

Thr Thr Trp Glu Glu Trp Asp Arg Glu Ile Asn Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 87
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 87

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Thr Ser Arg
1 5 10 15

Ile Glu Ser Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 88
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 88

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Asn Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 89
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 89

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Leu Glu Leu
35

<210> 90
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 90

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile His Ala Leu Ile Glu Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 91

<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 91

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Asn Tyr Ala Ala Leu
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 92
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 92

Glu Thr Trp Lys Glu Trp Asp Arg Ala Ile Glu Glu Tyr Lys Lys Arg
1 5 10 15

Ile Glu Glu Leu Ile Lys Ala Ala Glu Asn Gln Gln Glu Lys Asn Lys
20 25 30

Glu Ala Leu Arg Glu Leu
35

<210> 93
<211> 34
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 93

Trp Met Glu Trp Asp Arg Lys Ile Glu Glu Tyr Thr Lys Lys Ile Lys
1 5 10 15

Lys Leu Ile Glu Glu Ser Gln Glu Gln Gln Glu Lys Asn Glu Lys Glu
20 25 30

Leu Lys

<210> 94
<211> 34
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 94

Trp Met Glu Trp Asp Arg Lys Ile Glu Glu Tyr Thr Lys Lys Ile Glu
1 5 10 15

Glu Leu Ile Lys Lys Ser Gln Glu Gln Gln Glu Lys Asn Glu Lys Glu
20 25 30

Leu Lys

<210> 95
<211> 35
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 95

Trp Glu Glu Trp Asp Lys Lys Ile Glu Glu Tyr Thr Lys Lys Ile Glu
1 5 10 15

Glu Leu Ile Lys Lys Ser Glu Glu Gln Gln Lys Lys Asn Glu Glu Glu
20 25 30

Leu Lys Lys
35

<210> 96
<211> 39
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 96

Trp Gln Glu Trp Glu Gln Lys Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Asn Glu Tyr Glu Leu Gln Lys Leu Asp Lys Trp
20 25 30

Ala Ser Leu Trp Glu Trp Phe
35

<210> 97
<211> 36
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 97

Trp Gln Glu Trp Glu Gln Lys Val Arg Tyr Leu Glu Ala Asn Ile Thr
1 5 10 15

Ala Leu Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys Asn Glu Tyr Glu
20 25 30

Leu Gln Lys Leu
35

<210> 98
<211> 46
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 98

Trp Gln Glu Trp Glu Gln Lys Val Arg Tyr Leu Glu Ala Asn Ile Thr
1 5 10 15

Ala Leu Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys Asn Glu Tyr Glu
20 25 30

```
Leu Gln Lys Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
        35                  40                  45


<210>  99
<211>  50
<212>  PRT
<213>  Artificial

<220>
<223>  synthesized

<400>  99

Asn Asn Met Thr Trp Gln Glu Trp Glu Gln Lys Val Arg Tyr Leu Glu
1               5                   10                  15


Ala Asn Ile Thr Ala Leu Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys
            20                  25                  30


Asn Glu Tyr Glu Leu Gln Lys Leu Asp Lys Trp Ala Ser Leu Trp Asn
        35                  40                  45


Trp Phe
    50


<210>  100
<211>  36
<212>  PRT
<213>  Artificial

<220>
<223>  synthesized

<400>  100

Trp Asn Trp Phe Ile Thr Ala Leu Leu Glu Gln Ala Gln Ile Gln Gln
1               5                   10                  15


Glu Lys Asn Glu Tyr Glu Leu Gln Lys Leu Asp Lys Trp Ala Ser Leu
            20                  25                  30


Trp Asn Trp Phe
        35


<210>  101
<211>  46
<212>  PRT
<213>  Artificial
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<220>
<223> synthesized

<400> 101

Trp Gln Glu Trp Asp Arg Glu Ile Ser Asn Tyr Thr Ser Leu Ile Thr
1 5 10 15

Ala Leu Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys Asn Glu Tyr Glu
20 25 30

Leu Gln Lys Leu Asp Glu Trp Ala Ser Leu Trp Glu Trp Phe
35 40 45

<210> 102
<211> 40
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 102

Trp Gln Glu Trp Glu Arg Glu Ile Ser Ala Tyr Thr Ser Leu Ile Thr
1 5 10 15

Ala Leu Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys Ile Glu Tyr Glu
20 25 30

Leu Gln Lys Leu Glu Trp Glu Trp
35 40

<210> 103
<211> 39
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 103

Trp Gln Glu Trp Asp Arg Glu Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Asn Glu Tyr Glu Leu Gln Lys Leu Asp Lys Trp
20 25 30

Ala Ser Leu Trp Asn Trp Phe
35

<210> 104
<211> 39
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 104

Trp Gln Glu Trp Asp Arg Glu Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Asn Glu Tyr Glu Leu Gln Lys Leu Asp Glu Trp
20 25 30

Ala Ser Leu Trp Glu Trp Phe
35

<210> 105
<211> 35
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 105

Trp Gln Glu Trp Asp Arg Glu Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Asn Glu Tyr Glu Leu Gln Lys Leu Asp Glu Trp
20 25 30

Glu Trp Phe
35

<210> 106
<211> 35
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 106

Trp Gln Glu Trp Glu Arg Glu Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Ile Glu Tyr Glu Leu Gln Lys Leu Ile Glu Trp
20 25 30

Glu Trp Phe
35

<210> 107
<211> 35
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 107

Trp Gln Glu Trp Glu Arg Glu Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Asn Glu Tyr Glu Leu Gln Lys Leu Ile Glu Trp
20 25 30

Glu Trp Phe
35

<210> 108
<211> 35
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 108

Trp Gln Glu Trp Glu Arg Glu Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Ile Glu Tyr Glu Leu Gln Lys Leu Asp Glu Trp
20 25 30

Glu Trp Phe
35

<210> 109
<211> 39
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 109

Trp Gln Glu Trp Glu Gln Lys Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Asn Glu Tyr Glu Leu Gln Lys Leu Asp Lys Trp
20 25 30

Ala Ser Leu Trp Asn Trp Phe
35

<210> 110
<211> 39
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 110

Trp Gln Glu Trp Glu Gln Lys Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Asn Glu Tyr Glu Leu Gln Lys Leu Asp Lys Trp
20 25 30

Ala Gly Leu Trp Glu Trp Phe
35

<210> 111
<211> 39
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 111

Trp Gln Glu Trp Glu Gln Lys Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Asn Glu Tyr Glu Leu Gln Lys Leu Ala Glu Trp
20 25 30

Ala Gly Leu Trp Ala Trp Phe
35

<210> 112
<211> 35
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 112

Trp Gln Glu Trp Glu Gln Lys Ile Thr Ala Leu Leu Glu Gln Ala Gln
1 5 10 15

Ile Gln Gln Glu Lys Ile Glu Tyr Glu Leu Gln Lys Leu Ile Glu Trp
20 25 30

Glu Trp Phe
35

<210> 113
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 113

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Ala Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 114
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 114

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ala Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 115
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 115

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Ala
20 25 30

Ala Ala Leu Ala Glu Leu
35

<210> 116
<211> 48
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 116

Ala Lys Glu Ala Ala Gln Arg Ala Asn Ala Thr Thr Trp Glu Ala Trp
1 5 10 15

Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu Ala Leu Ile Arg
20 25 30

Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala Leu Arg Glu Leu
35 40 45

<210> 117
<211> 48
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 117

Asn Lys Glu Leu Glu Gln Arg Trp Asn Asn Thr Thr Trp Glu Ala Trp
1 5 10 15

Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu Ala Leu Ile Arg
20 25 30

Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala Leu Arg Glu Leu
35 40 45

<210> 118
<211> 48
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 118

Glu Lys Ala Ala Arg Gln Ala Glu Asn Ala Ala Arg Trp Glu Ala Trp
1 5 10 15

Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu Ala Leu Ile Arg
20 25 30

Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala Leu Arg Glu Leu
35 40 45

<210> 119
<211> 48
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 119

Glu Lys Ser Leu Arg Gln Ile Glu Asn Asn Thr Arg Trp Glu Ala Trp
1 5 10 15

Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu Ala Leu Ile Arg
20 25 30

Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala Leu Arg Glu Leu
35 40 45

<210> 120
<211> 48
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 120

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Ala Ala Arg Glu Ala Ala Trp Arg Trp Phe
35 40 45

<210> 121
<211> 48
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 121

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Asp Lys Arg Glu Ala Leu Trp Arg Trp Phe
35 40 45

<210> 122
<211> 48
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 122

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Asp Lys Arg Glu Ser Leu Trp Arg Trp Phe
35 40 45

<210> 123
<211> 49
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 123

Gly Ala Lys Glu Ala Ala Gln Arg Ala Asn Ala Thr Thr Trp Glu Ala
1 5 10 15

Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu Ala Leu Ile
20 25 30

Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala Leu Arg Glu
35 40 45

Leu

<210> 124
<211> 49
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 124

Gly Glu Lys Ala Ala Arg Gln Ala Glu Asn Ala Ala Arg Trp Glu Ala
1 5 10 15

Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu Ala Leu Ile
20 25 30

Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala Leu Arg Glu
35 40 45

Leu

<210> 125
<211> 37
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 125

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu
35

<210> 126
<211> 36
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 126

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg
35

<210> 127
<211> 35
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 127

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu
35

<210> 128
<211> 33
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 128

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala

<210> 129
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 129

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ile Leu Arg Glu Leu
35

<210> 130
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 130

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Leu Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 131
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 131

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Leu Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ile Leu Arg Glu Leu
35

<210> 132
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 132

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Leu Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 133
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 133

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Leu Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 134
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 134

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ala Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 135
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 135

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Ala Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 136
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 136

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Ala
35

<210> 137
<211> 36
<212> PRT

<213> Artificial

<220>
<223> synthesized

<400> 137

Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu
1 5 10 15

Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala
20 25 30

Leu Arg Glu Leu
35

<210> 138
<211> 37
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 138

Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu
1 5 10 15

Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala
20 25 30

Leu Arg Glu Leu Ala
35

<210> 139
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 139

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Ala Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 140
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 140

Glu Thr Trp Lys Glu Trp Asp Arg Ala Ile Glu Glu Tyr Lys Lys Arg
1 5 10 15

Ile Glu Glu Leu Ile Lys Ala Ala Glu Asn Gln Gln Glu Lys Asn Lys
20 25 30

Glu Ala Leu Arg Glu Leu
35

<210> 141
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 141

Met Ala Trp Met Glu Trp Asp Arg Arg Ile Glu Ala Tyr Ala Arg Leu
1 5 10 15

Ile Ala Glu Leu Ile Ala Arg Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 142
<211> 41
<212> PRT
<213> Artificial

<220>
<223> synthesized

Ala Ala Leu Arg Glu Leu
35

<210> 140
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 140

Glu Thr Trp Lys Glu Trp Asp Arg Ala Ile Glu Glu Tyr Lys Lys Arg
1 5 10 15

Ile Glu Glu Leu Ile Lys Ala Ala Glu Asn Gln Gln Glu Lys Asn Lys
20 25 30

Glu Ala Leu Arg Glu Leu
35

<210> 141
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 141

Met Ala Trp Met Glu Trp Asp Arg Arg Ile Glu Ala Tyr Ala Arg Leu
1 5 10 15

Ile Ala Glu Leu Ile Ala Arg Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 142
<211> 41
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 142

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Gln Gln Leu Arg Glu Trp Glu Trp Phe
35 40

<210> 143
<211> 41
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 143

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Trp Glu Trp Ile
35 40

<210> 144
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 144

Thr Thr Trp Asp Ala Trp Asp Arg Ala Ile Ala Asp Tyr Ala Ala Arg
1 5 10 15

Ile Asp Ala Leu Ile Arg Ala Ala Gln Asp Gln Gln Glu Lys Asn Asp
20 25 30

Ala Ala Leu Arg Glu Leu
35

<400> 142

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Gln Gln Leu Arg Glu Trp Glu Trp Phe
35 40

<210> 143
<211> 41
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 143

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Trp Glu Trp Ile
35 40

<210> 144
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 144

Thr Thr Trp Asp Ala Trp Asp Arg Ala Ile Ala Asp Tyr Ala Ala Arg
1 5 10 15

Ile Asp Ala Leu Ile Arg Ala Ala Gln Asp Gln Gln Glu Lys Asn Asp
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 145
<211> 41
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 145

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Ala Glu
20 25 30

Ala Ala Leu Arg Glu Trp Glu Trp Phe
35 40

<210> 146
<211> 52
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 146

Trp Ala Ser Leu Trp Glu Trp Phe Gly Gly Ser Gly Gly Ser Thr Thr
1 5 10 15

Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu
20 25 30

Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala
35 40 45

Leu Arg Glu Leu
50

<210> 147
<211> 52
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 147

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Gly Gly Ser Gly Gly Ser Trp Ala Ser Leu
35 40 45

Trp Glu Trp Phe
50

<210> 148
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 148

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Gln Glu Leu Arg Glu Leu
35

<210> 149
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 149

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Ala Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 150
<211> 41
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 150

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Trp Trp Trp Trp
35 40

<210> 151
<211> 47
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 151

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Asp Lys Trp Ser Leu Trp Arg Trp Phe
35 40 45

<210> 152
<211> 47
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 152

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Ala Leu Asp Lys Trp Glu Ala Leu Trp Arg Phe
35 40 45

<210> 153
<211> 41
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 153

Thr Thr Trp Glu Ala Trp Asp Arg Ala Trp Gln Glu Trp Glu Gln Lys
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Trp Glu Trp Phe
35 40

<210> 154
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 154

Leu Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 155
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 155

Thr Thr Trp Met Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 156
<211> 55
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 156

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Gly Gly Ser Gly Gly Ser Gly Gly Ser Trp
35 40 45

Ala Ser Leu Trp Glu Trp Phe
50 55

<210> 157
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 157

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Ala Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 158
<211> 58
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 158

Gly Ala Lys Glu Ala Ala Gln Arg Ala Asn Ala Thr Thr Trp Glu Ala
1 5 10 15

Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg Ile Glu Ala Leu Ile
20 25 30

Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu Ala Ala Leu Arg Glu
35 40 45

Leu Asp Lys Trp Ala Ser Leu Trp Trp Phe
50 55

<210> 159
<211> 39
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 159

Pro Ala Asn Trp Lys Ala Trp Glu Ala Gln Ile Gln Lys Tyr Gln Arg
1 5 10 15

Gln Ile Ala Glu Leu Ile Ala Asn Ala Lys Lys Gln Gln Glu Gln Asn
20 25 30

Glu Lys Ala Leu Arg Glu Leu
35

<210> 160
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 160

Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu
1 5 10 15

Ile His Ser Leu Ile Glu Glu Ile Gln Asn Gln Gln Glu Lys Asn Glu
20 25 30

Gln Glu Leu Leu Glu Leu
35

<210> 161
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 161

Thr Thr Trp Glu Glu Trp Asp Arg Glu Ile Asn Glu Tyr Thr Ser Arg
1 5 10 15

Ile Glu Ser Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Ala
20 25 30

Ala Ala Leu Ala Glu Leu
35

<210> 162
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 162

Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu
1 5 10 15

Ile His Ser Leu Ile Glu Glu Ile Gln Asn Ile Gln Glu Lys Asn Glu
20 25 30

Gln Glu Leu Leu Glu Leu
35

<210> 163
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 163

Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu
1 5 10 15

Ile His Ser Leu Ile Glu Glu Ile Gln Asn Ile Gln Glu Lys Ile Glu
20 25 30

Gln Glu Leu Leu Glu Leu
35

<210> 164
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 164

Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu
1 5 10 15

Ile His Ser Leu Ile Glu Glu Ile Gln Asn Ile Gln Glu Lys Asn Glu
20 25 30

Gln Ile Leu Leu Glu Leu
35

<210> 165
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 165

Met Thr Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu
1 5 10 15

Ile His Ser Leu Ile Glu Glu Ala Gln Asn Gln Gln Glu Lys Asn Glu
20 25 30

Gln Ala Leu Leu Glu Leu
35

<210> 166
<211> 42
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 166

Pro Ala Asn Trp Lys Ala Trp Glu Ala Gln Ile Gln Lys Tyr Gln Arg
1 5 10 15

Gln Ile Ala Glu Leu Ile Ala Asn Ala Lys Lys Gln Gln Glu Gln Asn
20 25 30

Glu Lys Ala Leu Arg Glu Trp Glu Trp Phe
35 40

<210> 167
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 167

Ala Asn Trp Lys Ala Trp Glu Ala Gln Ile Gln Lys Tyr Gln Arg Gln

1 5 10 15

Ile Ala Glu Leu Ile Ala Asn Ala Lys Lys Gln Gln Glu Gln Asn Glu
20 25 30

Lys Ala Leu Arg Glu Leu
35

<210> 168
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 168

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Val Leu Arg Glu Leu
35

<210> 169
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 169

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Val Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 170
<211> 38

<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 170

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Ile Glu
20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 171
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 171

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Leu Gln Glu Lys Asn Glu
20 25 30

Ala Ile Leu Arg Glu Leu
35

<210> 172
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 172

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Leu Gln Glu Leu Gln Glu Lys Asn Glu

20 25 30

Ala Ala Leu Arg Glu Leu
35

<210> 173
<211> 38
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 173

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Leu Leu Arg Glu Leu
35

<210> 174
<211> 39
<212> PRT
<213> Artificial

<220>
<223> synthesized

<400> 174

Thr Thr Trp Glu Ala Trp Asp Arg Ala Ile Ala Glu Tyr Ala Ala Arg
1 5 10 15

Ile Glu Ala Leu Ile Arg Ala Ala Gln Glu Gln Gln Glu Lys Asn Glu
20 25 30

Ala Ala Leu Arg Glu Leu Lys
35

<210> 175
<211> 36
<212> PRT
<213> Artificial

<220>

<223> synthesized

<400> 175

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Leu Thr Trp Ile Glu Trp Asp Arg Glu Ile Asn Lys Tyr Thr Ser Leu
1               5                   10                  15

Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu
            20                  25                  30

Gln Glu Leu Lys
        35
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